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EXAMINER	
FETTEROLF, BRANDON J	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/070,587	WOJNOWSKI ET AL.	
	Examiner	Art Unit	
	Brandon J. Fetterolf, PhD	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 July 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-8,12,13,37,39 and 40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-8,12,13,37,39 and 40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/30/2007 has been entered.

Claims 1, 3-8, 12-13, 37 and 39-40 are currently pending and under consideration.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3-8, 12-13, 37 and 39-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In the instant case, claim 1 recites "[A]n isolated polynucleotide encoding a variant human cytochrome P450 3A4 monooxygenase polypeptide or fragment thereof wherein the polynucleotide is selected from the group consisting of: 1.

(a) a polynucleotide comprising the nucleotide sequence of SEQ ID NO: 90;

(b) a polynucleotide encoding a polypeptide comprising the amino acid sequence of SEQ ID NO: 155;

(c) a polynucleotide encoding a polypeptide, wherein said polynucleotide comprises a sequence corresponding to SEQ ID NO: 90 and comprises a T at the position that corresponds to position 6 of SEQ ID NO: 90,

(d) a polynucleotide encoding a CYP3A4 polypeptide, wherein said polypeptide comprises a sequence corresponding to SEQ ID NO: 155, and comprises an amino acid substitution at the position that corresponds to position 21 of SEQ ID NO: 155; and

(e) a polynucleotide encoding a CYP3A4 polypeptide, wherein said polypeptide

comprises a sequence corresponding to SEQ ID NO: 155, and comprises an amino acid substitution of T to M at the position that corresponds to position 21 of SEQ ID NO: 155, ..." However, it is unclear what Applicants are claiming as his or her invention for polynucleotides (c) and/or (e). For example, the polynucleotide of SEQ ID NO: 90 already appears to comprise a T at the position that corresponds to position 6 of SEQ ID NO: 90. Similarly, the polypeptide of corresponding to SEQ ID NO: 155 already appears to comprise the amino acid M at the position corresponding to position 21 of SEQ ID NO: 155. As such, polynucleotides (c) and (e) will be interpreted for prior art purposes as being a polynucleotide sequence comprising SEQ ID NO: 90 and a polynucleotide sequence encoding a polynucleotide comprising the sequence of SEQ ID NO: 155.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 3-8, 12-13, 37 and 39-40 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. THIS IS A NEW MATTER REJECTION.

Claim 1 recites "[A]n isolated polynucleotide encoding a variant human cytochrome P450 3A4 monooxygenase polypeptide or fragment thereof wherein the polynucleotide is selected from the group consisting of: 1.

(a) a polynucleotide comprising the nucleotide sequence of SEQ ID NO: 90;

(b) a polynucleotide encoding a polypeptide comprising the amino acid sequence of SEQ ID NO: 155;

(c) a polynucleotide encoding a polypeptide, wherein said polynucleotide comprises a sequence corresponding to SEQ ID NO: 90 and comprises a T at the position that corresponds to position 6 of SEQ ID NO: 90,

(d) a polynucleotide encoding a CYP3A4 polypeptide, wherein said polypeptide comprises a

sequence corresponding to SEQ ID NO: 155, and comprises an amino acid substitution at the position that corresponds to position 21 of SEQ ID NO: 155; and
(e) a polynucleotide encoding a CYP3A4 polypeptide, wherein said polypeptide comprises a sequence corresponding to SEQ ID NO: 155, and comprises an amino acid substitution of T to M at the position that corresponds to position 21 of SEQ ID NO: 155, ..." However, the limitations found for polynucleotides (c), (d) and (e) have no clear support in the specification and the claims as originally filed. Applicant is required to cancel the new matter in the response to this Office Action. Alternatively, applicant is invited to provide sufficient written support for the "limitation" indicated above. See MPEP 714.02 and 2163.06

Claims 39-40 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a diagnostic composition comprising the polynucleotide of claim 1 or 3, does not reasonably provide enablement for a pharmaceutical composition comprising the polynucleotide of claim 1 or 3. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

The factors to be considered in determining whether undue experimentation is required are summarized In re Wands 858 F.2d 731, 8 USPQ2nd 1400 (Fed. Cir, 1988). The court in Wands states: "Enablement is not precluded by the necessity for some experimentation such as routine screening. However, experimentation needed to practice the invention must not be undue experimentation. The key word is 'undue,' not 'experimentation.' " (Wands, 8 USPQ2d 1404). Clearly, enablement of a claimed invention cannot be predicated on the basis of quantity of experimentation required to make or use the invention. "Whether undue experimentation is needed is not a single, simple factual determination, but rather is a conclusion reached by weighing many factual considerations." (Wands, 8 USPQ2d 1404). The factors to be considered in determining whether undue experimentation is required include: (1) the nature of the invention, (2) the relative skill of those in the art, (3) the breadth of the claims, (4) the amount or direction or guidance presented, (5) the presence or absence of working examples, (6) the quantity of experimentation necessary, (7) the state of the prior art, and (8) the predictability or unpredictability of the art.

Although the quantity of experimentation alone is not dispositive in a determination of whether the required experimentation is undue, this factor does play a central role. For example, a very limited quantity of experimentation may be undue in a fledgling art that is unpredictable where no guidance or working examples are provided in the specification and prior art, whereas the same amount of experimentation may not be undue when viewed in light of some guidance or a working example or the experimentation required is in a predictable established art. Conversely, a large quantity of experimentation would require a correspondingly greater quantum of guidance, predictability and skill in the art to overcome classification as undue experimentation. In Wands, the determination that undue experimentation was not required to make the claimed invention was based primarily on the nature of the art, and the probability that the required experimentation would result in successfully obtaining the claimed invention. (Wands, 8 USPQ2d 1406) Thus, a combination of factors which, when viewed together, would provide an artisan of ordinary skill in the art with an expectation of successfully obtaining the claimed invention with additional experimentation would preclude the classification of that experimentation as undue. A combination of Wands factors, which provide a very low likelihood of successfully obtaining the claimed invention with additional experimentation, however, would render the additional experimentation undue.

The nature of the invention

The claims are drawn to a pharmaceutical composition comprising a polynucleotide of claim 1 or 3. The invention is in a class of invention which the CAFC has characterized as "the unpredictable arts such as chemistry and biology." Mycogen Plant Sci., Inc. v. Monsanto Co., 243 F.3d 1316, 1330 (Fed. Cir. 2001).

Level of skill in the art

The level of skill in the art is deemed to be high, generally that of a PhD or MD.

The breadth of the claims

Applicants broadly claim a pharmaceutical composition comprising a polynucleotide of claim 1 or 3. Thus, the use of the phrase "pharmaceutical composition" implies the in vivo use of the claimed polynucleotide.

Guidance in the specification and Working Examples

The specification teaches the pharmaceutical and diagnostic compositions of the instant invention are useful for the diagnosis and treatment of cancer and other diseases (page 6, last paragraph). For example, the specification teaches that pharmaceutical composition comprising a nucleic acid molecule or vector may be conveniently administered by any route conventionally used for drug administration, for instance, orally, topically, parentally or by inhalation (page 28, last paragraph). Thus, while the specification contemplates the use of pharmaceutical composition comprising a nucleic acid in vivo, the specification appears to be silent on any correlation between the in vitro testing and in vivo success. As such, if there is no correlation then the examples do not constitute working examples. While it is understood that the absence of working examples should never be the sole reason for rejecting a claims as being broader than an enabling disclosure, the criticality of working examples in an unpredictable art, such as the treatment of cancer, is required for practice of the claimed invention.

Quantity of experimentation

The quantity of experimentation in the areas of cancer therapy is extremely large given the unpredictability associated with treating cancer in general and the lack of correlation of in vitro findings to in vivo success, as well as the unpredictability associated with gene therapy

The unpredictability of the art and the state of the prior art

In general, treatment of cancer is at most unpredictable as underscored by Gura (Science, v278, 1997, pp.1041-1042) who discusses the potential shortcomings of potential anti-cancer agents including extrapolating from in-vitro to in-vivo protocols, the problems of drug testing in knockout mice- particularly strains which have tumor suppressor gene knockouts, and problems of clonogenic assays. Indeed, since formal screening began in 1955, thousands of drugs have shown activity in either cell or animal models, but only 39 that are used exclusively for chemotherapy, as opposed to supportive care, have won approval from the FDA (page 1041, 1st column) wherein the fundamental problem in drug discovery for cancer is that the model systems are not predictive. Gura further

teaches that very few drugs tested in xenografts models have made it to clinical practice and that attempts to use human cells in culture don't seem to be faring any better, partly because cell culture provides no information about whether a drug will make it to the tumor site (page 1041, 3rd paragraph). All of this underscores the criticality of providing workable examples which is not disclosed in the specification, particularly in an unpredictable art, such as cancer therapy.

With regards to the unpredictability in the art, those of skill in the art recognize that in vitro assays and or cell-cultured based assays are generally useful to observe basic physiological and cellular phenomenon such as screening the effects of potential drugs. However, clinical correlations are generally lacking. The greatly increased complexity of the in vivo environment as compared to the very narrowly defined and controlled conditions of an in- vitro assay does not permit a single extrapolation of in vitro assays to human diagnostic efficacy with any reasonable degree of predictability. In vitro assays cannot easily assess cell-cell interactions that may be important in a particular pathological state. Furthermore it is well known in the art that cultured cells, over a period time, lose phenotypic characteristics associated with their normal counterpart cell type. Freshney (Culture of Animal Cells, A Manual of Basic Technique, Alan R. Liss, Inc., 1983, New York, p4) teach that it is recognized in the art that there are many differences between cultured cells and their counterparts *in vivo*. These differences stem from the dissociation of cells from a three-dimensional geometry and their propagation on a two-dimensional substrate. Specific cell interactions characteristic of histology of the tissue are lost. The culture environment lacks the input of the nervous and endocrine systems involved in homeostatic regulation *in vivo*. Without this control, cellular metabolism may be more constant *in vitro* but may not be truly representative of the tissue from which the cells were derived. This has often led to tissue culture being regarded in a rather skeptical light (p. 4, see Major Differences *In Vitro*). Further, Dermer (Bio/Technology, 1994, 12:320) teaches that, "petri dish cancer" is a poor representation of malignancy, with characteristics profoundly different from the human disease. In addition, Dermer teaches that when a normal or malignant body cell adapts to immortal life in culture, it takes an evolutionary type step that enables the new line to thrive in its artificial environment. This step transforms a cell from one that is stable and differentiated to one that is not. Yet normal or malignant cells *in vivo* are not like that. The reference states that evidence of the contradictions between life on the bottom of a lab dish and in the body has been in the scientific literature for more than 30 years. Clearly it is well known in the

art that cells in culture exhibit characteristics different from those *in vivo* and cannot duplicate the complex conditions of the *in vivo* environment involved in host-tumor and cell-cell interactions.

Moreover, those of skill in the art would recognize the unpredictability of treating a disease by a method of gene therapy. Gene therapy using administration of recombinant nucleic acids involving *in vivo* or *ex vivo* methods had not seen any success despite a great deal of work and resources. Several reviews in the art show that difficulties with vector selection, mode of delivery and persistence of predictable and effective levels of expression of the protein, created technical barriers to the practice of gene therapy methods. Verma et al states that, "[t]he Achilles heel of gene therapy is gene delivery...", and that, "most of the approaches suffer from poor efficiency of delivery and transient expression of the gene" (Verma et al. (1997) Nature Volume 389, page 239, column 3, paragraph 2). Marshall concurs, stating that, "difficulties in getting genes transferred efficiently to target cells- and getting them expressed-remain a nagging problem for the entire field", and that "many problems must be solved before gene therapy will be useful for more than the rare application" (Marshall (1995) Science, Volume 269, page 1054, column 3, paragraph 2, and page 1055, column 1).

Numerous factors complicate the gene therapy art which have not been shown to be overcome by routine experimentation. Eck et al. (Goodman & Gilman's The Pharmacological Basis of Therapeutics (1996), 9th Edition, Chapter 5, McGraw-Hill, NY) explains, "the delivery of exogenous DNA and its processing by target cells requires the introduction of new pharmakinetic paradigms beyond those that describe the conventional medicines in use today". Eck et al teaches that with *in vivo* gene transfer, one must account for the fate of the DNA vector itself (volume of distribution, rate of clearance into the tissues, etc.), the *in vivo* consequences of altered gene expression and protein function, the fraction taken up by the target cell population, the trafficking of the genetic material within cellular organelles, the rate of degradation of the DNA, the level of mRNA produced, the stability of the mRNA produced, the amount and stability of the protein produced, and the protein's compartmentalization within the cell or its secretory fat, once produced. These factors differ dramatically based on the vector used, the protein being produced and the disease being treated (see Eck et al, bridging pages 81-82).

Also among the many factors that the art teaches affect efficient gene delivery and sustained gene expression are, immune responses and the identity of the promoter used to drive gene

expression. Verma et al teaches, in reference to *ex vivo* methods, that weak promoters produce only low levels of therapeutically effective protein, and that only by using appropriate enhancer-promoter combinations can sustained levels of therapeutically effective protein be achieved (Verma et al, *supra*, page 240, column 2). Verma et al further warns that, "...the search for such combinations is a case of trial error for a given cell type" (Verma et al, *supra*, page 240, bridging sentence of columns 2-3). The state of the art is such that no correlation exists between successful expression of a gene and a therapeutic result (Ross et al, Human Gene Therapy,1996, Volume 7, pages 1781-1790, see page 1789, column 1, first paragraph). Thus, the art at the time at the time of filing clearly establishes that expectation for achieving a desired therapeutic effect in vivo by expressing a therapeutic gene using any of the expression constructs known in the art was extremely low.

More recently, Rubanyi (Mol. Aspects Med. (2001) 22:113-142) teaches that the problems described above remain unresolved. Rubanyi states, "[a]lthough theoretical advantages of [human gene therapy] are undisputable, so far [human gene therapy] has not delivered the promised results: convincing clinical efficacy could not be demonstrated yet in most of the trials conducted so far..." (page 113, paragraph 1). Among the technical hurdles that Rubanyi teaches remain to be overcome are problems with gene delivery vectors and improvement in gene expression control systems (see "3. Technical hurdles to be overcome in the future", beginning on page 116 and continued through page 125). Furthermore, Juengst (British Medical Journal (2003) Volume 326, pages 1410-1411) teaches the unpredictable nature of gene therapy and that a few of the apparent successes actually developed T cell-acute lymphoblastic leukemia due to insertional mutagenesis at or near the LMO-2 gene causing altered gene expression. The art has demonstrated that a large amount of experimentation has already been performed without demonstrating successful gene therapy methods for treatment of disease.

Thus, in order to practice the claimed invention, the skilled artisan would not have found sufficient guidance in the specification to achieve effective levels of the expressed nucleic acid, to select a proper dose or administration route or to determine other factors for a successful treatment. The prior art did not compensate for the lack of guidance in the specification since the teachings do not recognize any clearly successful gene therapy methods. The skilled artisan would have had to engage in a large amount of experimentation to practice the claimed invention. In view of the lack

of guidance and the large amount of experimentation in an unpredictable art, it would require undue experimentation to practice the claimed invention.

Conclusion

Thus given the broad claims in an art whose nature is identified as unpredictable, the unpredictability of that art, the lack of guidance provided in the specification for correlation in vitro results to in vivo success, and the negative teachings in the prior art balanced only against the high skill level in the art, it is the position of the examiner that it would require undue experimentation for one of skill in the art to perform the method of the claim as written.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-8, 12-13, 37, and 39-40 are rejected under 35 U.S.C. 102(e) as being anticipated by Larossa et al. (U.S. 6,025,131, 1996, of record).

Larossa et al. teach a polynucleotide having, from nucleotides 134 to 144, the presently claimed polynucleotide of SEQ ID NO: 90 (Columns 33 and 34, see attached sequence comparison for sequence identifier 12). The Patent further teaches (column 4, lines 53-55, column 11, lines 2-14, and Figure 1) a vector comprising the polynucleotide further operatively linked to an expression control sequence which allows for the expression in prokaryotic or eukaryotic cells. Moreover, Larossa et al. teach (page 4, lines 56-58) host cells with are genetically engineered with a vector comprising a polynucleotide operatively linked to an expression control sequence. Furthermore, the patent teaches (column 8, lines 60-67) a nucleic acid molecule which is complementary to the polynucleotide as the result of expression of the gene product, wherein the gene product is a protein. In addition, Larossa et al. (column 4, line 59 to column 5, line 2) provide a diagnostic

composition comprising a probe useful for detecting chemical compounds, wherein said probe comprises a the polynucleotide operatively linked to a luminescent reporter gene complex. Lastly, the patent teaches a method for producing cells comprising genetically engineering cells with the polynucleotide (column 13, line 50 to column 14, line 34). Thus, while Larossa et al. do not explicitly teach that the polynucleotide encodes a polypeptide having impaired expression and impaired testosterone or progesterone hydrolase activity, the claimed limitation does not appear to result in a manipulative difference between the prior art's polynucleotide comprising the claimed nucleotide of SEQ ID NO: 90. Mere recognition of latent properties in the prior art does not render nonobvious an otherwise known invention. In re Wiseman, 201 USPQ 658 (CCPA 1979). Granting a patent on the discovery of an unknown but inherent function would remove from the public that which is in the public domain by virtue of its inclusion in, or obviousness from, the prior art. In re Baxter Travenol Labs, 21 USPQ2d 1281 (Fed. Cir. 1991). See M.P.E.P. 2145.

```
Query Match         100.0%; Score 11; DB 3; Length 205;
Best Local Similarity  100.0%; Pred. No. 1.1e+03;

Qy            1 TGAAATGCTCA 11   (SEQ ID NO: 90)
                ||||||||||||
Db          134 TGAAATGCTCA 144   (Larossa's SEQ ID NO: 12)
```

Claim 37 is rejected under 35 U.S.C. 102(e) as being anticipated by Mittman et al. (US 6,821,724, 1999, of record).

Mittman et al. teach a nucleic acid probe consisting of 25 nucleotides in length and comprising the patentably claimed nucleotide sequence of SEQ ID NO: 90 or a complementary sequence as shown below.

US-6,821,724 (SEQ ID NO:71432)

```
Query Match         100.0%; Score 11; DB 4; Length 25;
Best Local Similarity  100.0%; Pred. No. 8.1e+02;
Matches  11;
Qy            1 TGAAATGCTCA 11 (SEQ ID NO: 90)
                ||||||||||||
Db           12 TGAAATGCTCA 2 (SEQ ID NO: 71432)
```

Note: In order to expedite prosecution, the Examiner would like to address Applicants arguments pertaining the to previous rejections as they relate to the instant rejection. In response to

the previous rejection, Applicants assert that the polynucleotide referred to in Larossa is derived from a 205 base pair sequence that borders a sulfometuron methyl (SM) responsive regulatory region in E. coli and Mittman et al. teaches a polynucleotide which is a short nucleic acid sequence complementary to a murine gene. Thus, Applicants assert that one skilled in the art at the time the invention was made would not expect that either the E. coli-derived polynucleotide of Larossa or the murine derived polynucleotide of Mittman would encode a variant human cytochrome p450 3A4 monooxygenase polypeptide or fragment thereof. Moreover, Applicants assert that one skilled in the art would not expect that the polynucleotide referred to in Larossa or Mittman would have testosterone or progesterone hydroxylase activity.

These arguments have been carefully considered, but are not found persuasive.

In the instant case, the Examiner acknowledges and agrees with Applicants assertions with respect to the teachings of both Larossa and Mittman et al. However, the Examiner recognizes that each teaches a polynucleotide comprising the claimed nucleotide sequence of SEQ ID NO: 90. As stated above, while the prior art do not explicitly teach that the polynucleotide encodes a polypeptide having impaired expression and impaired testosterone or progesterone hydrolase activity, the claimed limitation does not appear to result in a manipulative difference between the prior art's polynucleotide comprising the claimed nucleotide of SEQ ID NO: 90. Mere recognition of latent properties in the prior art does not render nonobvious an otherwise known invention. In re Wiseman, 201 USPQ 658 (CCPA 1979). Granting a patent on the discovery of an unknown but inherent function would remove from the public that which is in the public domain by virtue of its inclusion in, or obviousness from, the prior art. In re Baxter Travenol Labs, 21 USPQ2d 1281 (Fed. Cir. 1991). See M.P.E.P. 2145.

Therefore, No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon J. Fetterolf, PhD whose telephone number is (571)-272-2919. The examiner can normally be reached on Monday through Friday from 7:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shanon Foley can be reached on 571-272-0898. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Brandon J Fetterolf, PhD
Patent Examiner
Art Unit 1642

BF